

REMARKS

The Office Action and references have been considered. Claims 1-49 are currently pending. Claims 5, 17, 44 and 45 are withdrawn. As such, claims 1-4, 6-16, 18-43 and 46-49 are pending and under consideration. Claim 39 is indicated allowable if placed in independent form. The rest of the claims are rejected. Reconsideration and allowance are respectfully requested for the following reasons.

The Office has preliminarily rejected claims 1-4, 6-10, 14-16, 18-25, 27-38, 40-43, 46 and 49 under 35 U.S.C. §103(a) as being unpatentable over Martin (U.S. Patent No. 4,305,348) in view of Bock (U.S. Patent No. 6,145,481) and Zurfluh (U.S. Patent No. 6,357,758). Applicant respectfully traverses and asserts: 1, the Office has not established a *prima facie* case of obviousness; 2, that there is no motivation to combine the references; and 3, that the references are not physically combinable.

In support of this assertion, Applicant cites some quotations as follows: "To establish a *prima facie* case of obviousness, ... there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." MPEP §706.02(j) (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ.2d 1438 (Fed. Cir. 1991)). "The level of skill in the art cannot be relied upon to provide the suggestion to combine references." MPEP § 2143.01 (citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999)). When the Examiner and the Board "rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on record." *In re Lee*, 277 F.3d 1338, 1345, 61 USPQ.2d 1430, 1435 (Fed. Cir. 2002). "The Board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies." *Id.*

No *Prima Facie* Case of Obviousness

Although read carefully several times, the Office Action does not seem to indicate any motivation to combine Martin with either Bock or Zurfluh. The reasons given for the rejection refers only to heat dissipation properties allegedly associated with Bock and Zurfluh, and are summarized in the Office Action as:

"It would have been obvious to modify Martin by making the spacer elements as taught by Bock (to include a boss portion) and to make the face of the gasket as taught by Zurfluh because Bock taught the

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heat dissipation advantages of his spacer structure and Zurfluh simply illustrated the need to make any spacer or gasket with orifices for coolant flow and head mounting bolts."

Office Action (October 6, 2005), pages 2-3. Applicant submits that this is a conclusory statement that does not identify any rationale for the combination. As such, the Office has not established a *prima facie* case of obviousness. *See MPEP § 706.02(j)*. Careful inspection of the references and their teachings is invited.

No Motivation to Combine References

In contrast to the Office's broad assertion to combine the references, the differences in the references indicate that a person of ordinary skill in the art would *not* combine Martin with Bock and Zurfluh. As an example, Martin and Bock are concerned with different issues. Martin is concerned with *preventing* fluid flow within the engine:

"The invention relates to an internal combustion engine structure, and addresses the problem of preventing coolant and lubricant from mixing therein."

"Briefly stated, the present invention is an apparatus for sealing between the engine block and the cylinder liner in an internal combustion engine."

Martin, Abstract and Column 2, lines 5-7.

Conversely, Bock is concerned with *providing* fluid flow within the engine:

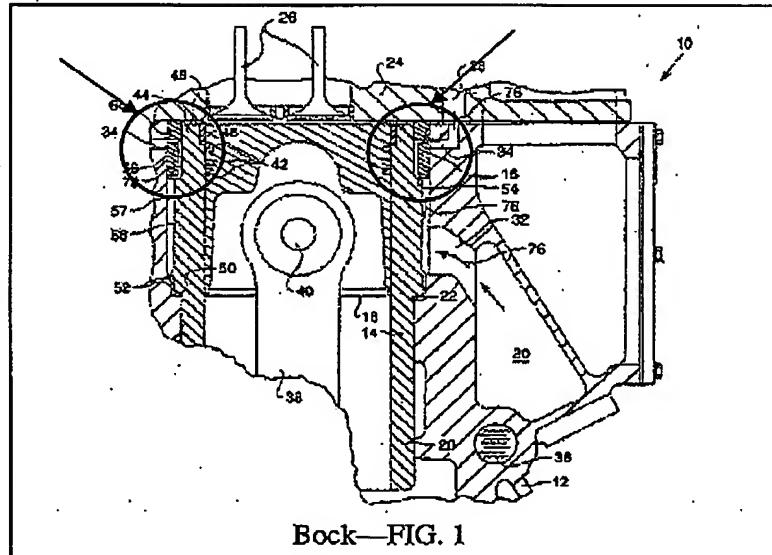
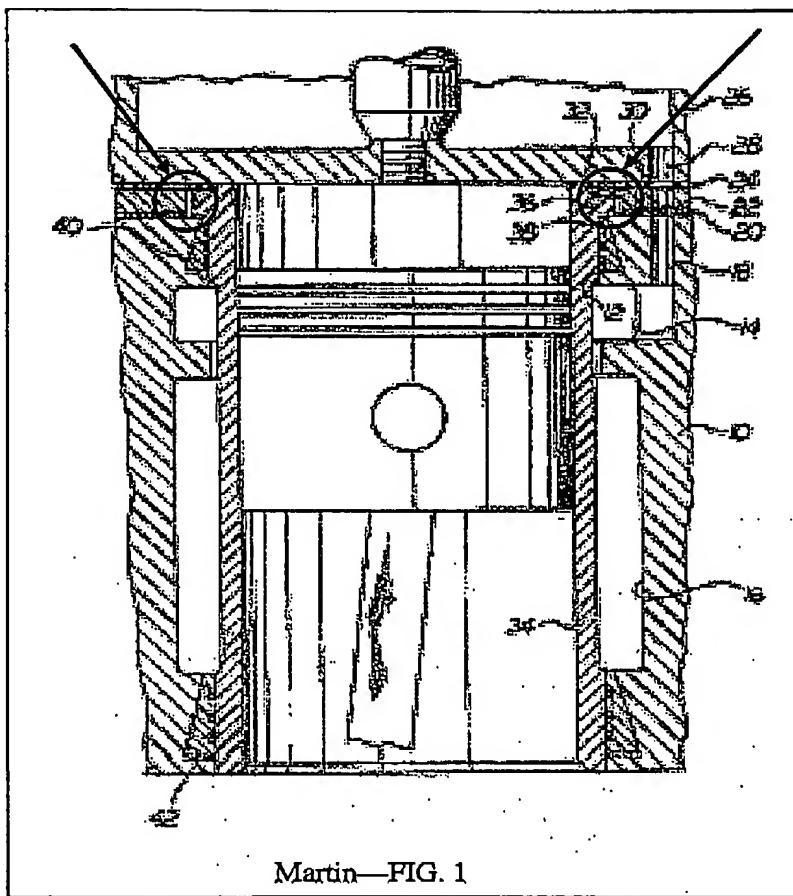
"The configuration of cylinder liner 14, cylinder block 12 and cooling ring 16 co-act to provide effective cooling of cylinder liner 14 within internal combustion engine 10. The dimensions and shapes of the various coolant flow channels 57, 70, 72 and 34 can be shaped and/or sized to provide a flow of liquid coolant at various points adjacent to cylinder liner 14"

Bock, Column 4, lines 5-11.

Another example of the differences between Martin and Bock that indicate a lack of a motivation to combine is the fact that Martin and Bock contain opposing teaching concerning the support structure for a cylinder liner. For instance, Martin's spacer 22 does not contact and, therefore, does not support cylinder liner 34. In contrast, Bock's cooling ring 16 contacts and is capable of providing support to cylinder liner 14. See Martin, FIG.1 and Bock, FIG. 1, reproduced *infra*.

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As such, the unsupportive spacer 22 of Martin actually teaches away from using the supportive cooling ring 16 of Bock.

An example of the differences between Martin and Zurfluh that indicate a lack of a motivation to combine is the fact that Martin and Zurfluh are concerned with different regions of an engine. Martin is concerned with the region where the cylinder liner and the cylinder block interact:

"A seal structure is provided for sealing between an engine block 10 and a cylinder liner 34 in an internal combustion engine."

Martin, Abstract. In contrast, Zurfluh is concerned with the region where the cylinder block and the head interact:

"A metal gasket for use in sealing between a cylinder head and a block of an engine"

Zurfluh, Abstract,

One of ordinary skill in the art concerned with interactions between the cylinder liner and the cylinder block would not look to a reference concerned with interactions between the cylinder block and the head.

No Motivation to Make a Single-Piece Structure

In addition to there being no motivation to generally combine Martin with Bock and Zurfluh, there is no motivation in either Martin, Bock or Zurfluh to combine Martin's spacer 22 and Bock's cooling ring 16 into a single-piece structure. In fact, physically combining Martin's spacer 22 with the Bock's cooling ring 16 would defeat a primary motivation behind at least one reference. For example, Martin is concerned with sealing the connection between the cylinder liner and the cylinder block, thereby preventing the flow of fluid between the cylinder liner 34 and the engine block 10:

"Briefly stated, the present invention is an apparatus for sealing between the engine block and the cylinder liner in an internal combustion engine."

Martin, Column 2, lines 5-7.

In contrast, Bock is concerned with providing fluid flow between the cylinder liner 14 and the cylinder block 12.

"The liquid coolant travels in the annular channel 57 around cylinder liner 14 in a direction generally toward cooling ring 16. The liquid coolant then flows through the flow passages 70 between projection 68 and into the annular coolant channel 72 between second inside diameter 60 and cylinder liner 14. The liquid coolant then flows in a radial direction through radial coolant passages 74 and into branch

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channels 34 [within cylinder block 12] which connect with other appropriate flow channels, such as a channel 28 in cylinder head 24."

Bock, Column 3, lines 56-65.

Combining Martin with Bock would necessitate either allowing fluid flow between the cylinder liner and the block or restricting fluid flow between the cylinder liner and block, thereby resulting in a structure that is contrary to the teachings of at least one of the references.

A Single-Piece Structure Requires Radical Modification to References

Furthermore, the structures disclosed in Martin and Bock cannot be combined into a single-piece structure without radically modifying at least one of the structures disclosed in Martin and Bock. For example, Martin discloses a gap between spacer 22 and cylinder liner 34 while Bock discloses a contacting relationship between cylinder liner 14 and cooling ring 16. *See* Martin, FIG. 1 and Bock, FIG. 1, reproduced *supra*. To physically combine Martin's spacer 22 with Bock's cooling ring 16 would require a modification of at least one of the structures that is certainly not disclosed or suggested in either reference.

As another example of the radical modifications required to combine Martin and Bock into a single-piece structure, Martin's spacer 22 is located atop metallic gasket 20, where metallic gasket 20 is on top of cylinder block 10, and accommodates a cylinder liner with an upper radial flange 36 that extends above the cylinder block 10. Conversely, Bock's cooling ring 16 is located at or below the gasket on top of the cylinder block 12 and does not accommodate a cylinder liner with an upper radial flange that extends above the cylinder block. Not only would extreme modification of at least one of the structures in either Bock and Martin be required to combine the two into a single-piece structure, but it is difficult to imagine the precise structure that would result from the combination of Martin's spacer 22 and Bock's cooling ring 16 without violating the teachings of either reference.

The Ford (U.S. Patent No. 2,279,671) and Ishida (U.S. Patent No. 6,336,639) references do nothing to change the lack of applicability of the references discussed above.

In summary, Applicant respectfully asserts that the Patent Office has not established a *prima facie* case of obviousness. Applicant further asserts that there is no suggestion in or motivation to combine the references, and further that the references are not physically combinable without radical modification to the structure of at least one reference. As such, Applicant respectfully asserts that the independent claims, claims 1, 10, 14, 23, 27, 30 and 41, are patentable over the references. The remaining claims, claims 2-4, 6-9, 11-13, 15-16, 18-22, 24-26, 28, 29, 31-40, 42-43

and 46-49, are dependent on the aforementioned independent claims and allowable for this reason and the additional recitals in them as well. As such, Applicant respectfully asserts that all claims are patentable and requests advance of the application towards issuance of a Notice of Allowance.

Respectfully submitted,

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